

Statement of Basis

**Permit to Construct No. P-2011.0132
Project ID 61459**

**Rexburg Facility of Basic American Foods, a Division of Basic American, Inc.
Rexburg, Idaho**

Facility ID 065-00008

Draft for Facility Review

**DRAFT XX, 2015
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The purpose of this Statement of Basis is to satisfy the requirements of IDAPA 58.01.01. et seq, Rules for the Control of Air Pollution in Idaho, for issuing air permits.

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

AAC	acceptable ambient concentrations
AACC	acceptable ambient concentrations for carcinogens
acfm	actual cubic feet per minute
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BMP	best management practices
Btu	British thermal units
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CAS No.	Chemical Abstracts Service registry number
CBP	concrete batch plant
CEMS	continuous emission monitoring systems
cfm	cubic feet per minute
CFR	Code of Federal Regulations
CI	compression ignition
CMS	continuous monitoring systems
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalent emissions
COMS	continuous opacity monitoring systems
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EL	screening emission levels
EPA	U.S. Environmental Protection Agency
FEC	Facility Emissions Cap
GHG	greenhouse gases
gph	gallons per hour
gpm	gallons per minute
gr	grains (1 lb = 7,000 grains)
HAP	hazardous air pollutants
HHV	higher heating value
HMA	hot mix asphalt
hp	horsepower
hr/yr	hours per consecutive 12 calendar month period
ICE	internal combustion engines
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
iwg	inches of water gauge
km	kilometers
lb/hr	pounds per hour
lb/qtr	pound per quarter
m	meters
MACT	Maximum Achievable Control Technology
mg/dscm	milligrams per dry standard cubic meter
MMBtu	million British thermal units
MMscf	million standard cubic feet
NAAQS	National Ambient Air Quality Standard
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NSPS	New Source Performance Standards

O&M	operation and maintenance
O ₂	oxygen
PAH	polyaromatic hydrocarbons
PC	permit condition
PCB	polychlorinated biphenyl
PERF	Portable Equipment Relocation Form
PM	particulate matter
PM _{2.5}	particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers
PM ₁₀	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
ppm	parts per million
ppmw	parts per million by weight
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTC	permit to construct
PTC/T2	permit to construct and Tier II operating permit
PTE	potential to emit
PW	process weight rate
RAP	recycled asphalt pavement
RFO	reprocessed fuel oil
RICE	reciprocating internal combustion engines
<i>Rules</i>	<i>Rules for the Control of Air Pollution in Idaho</i>
scf	standard cubic feet
SCL	significant contribution limits
SIP	State Implementation Plan
SM	synthetic minor
SM80	synthetic minor facility with emissions greater than or equal to 80% of a major source threshold
SO ₂	sulfur dioxide
SO _x	sulfur oxides
T/day	tons per calendar day
T/hr	tons per hour
T/yr	tons per consecutive 12 calendar month period
T2	Tier II operating permit
TAP	toxic air pollutants
TEQ	toxicity equivalent
T-RACT	Toxic Air Pollutant Reasonably Available Control Technology
ULSD	ultra-low sulfur diesel
U.S.C.	United States Code
VOC	volatile organic compounds
yd ³	cubic yards
µg/m ³	micrograms per cubic meter

FACILITY INFORMATION

Description

The Rexburg Facility of Basic American Foods (BAF) produces a variety of dehydrated food products for both internal use and for external customers. Products include potato granules, formulated dehydrated food products, dehydrated whole and piece food products, and animal feed. BAF uses a variety of dehydration technologies to produce products to meet exacting customer specifications. The main sources of air emissions include boilers, dryers, dehydration lines, pneumatic material transfer, and packaging operations. Steam for plant operations is provided by boiler numbers 1 and 2 and the Kipper & Sons boiler.

Materials transport occurs both internally within a processing activity and externally to transfer materials between processes, to place them into or take them out of bulk storage, or to transport them to packaging and load-out activities. BAF uses air suspension systems to transport granules and most formulated products; these suspension processes include air slides and pneumatic bulk transfer operations. BAF also uses belt and bucket conveyors at various locations in its operations to transport raw materials, products in processing, and finished products. All bucket and belt conveyors are entirely contained within enclosed buildings. BAF also uses wet flumes to transport raw potatoes. Forklifts are used to transfer tote containers within the plant. Materials recovery units (primarily cyclones and baghouses) are integral to the operation of all unit processes in which granules or formulated products are suspended in air.

BAF operates packaging equipment to fill product containers with bulk product. Spices and flavoring may be added to the bulk product during the packaging process. Dust pickups located within the packaging area exhaust to the atmosphere through baghouses.

Raw materials are received on site by truck. Granules can be received by rail as well as by truck. All shipments are by rail or truck. Trucks are also used to move potatoes to and from the onsite cellars.

Plant process heating is provided by both direct firing with natural gas and indirect heating using steam supplied by facility boilers. Plant space heating is by natural gas.

Plant products are described as follows.

Dehydrated potato granules

Potato granules are individual potato cells prepared from raw potatoes by cooking, followed by gentle drying. Granules typically range from 50 to 120 microns in size. Most of the granules produced at the Rexburg Plant are used at the Rexburg Plant; occasionally granules are shipped to other BAF plants for use in products produced at those plants.

Dehydrated piece food products

BAF prepares dehydrated piece food products by dehydrating cooked and/or blanched foods. These foods can be either whole vegetables or vegetable pieces. Piece products range up to several inches in diameter.

Food processing byproducts

Sellable food fractions and off-specification materials that are not suitable for use in other products are produced as by-products of plant processes. BAF uses various materials classification processes to segregate, collect, and transport these byproducts. Food byproducts are transferred directly to load-out operations after collection without further processing beyond collection.

Air suspension unit processes are also used to classify materials and to remove unsuitable fractions from the production stream.

Food processing by-products are produced from food fractions that are not suitable for sale as primary products.

Permitting History

The following information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

July 23, 2013	T1-2012.0066, Tier I renewal, Permit status (A)
October 5, 2012	T1-2008.0110, Tier I Administrative Amendment to incorporate PTC P-2011.0132, issued June 1, 2012 (S)
June 1, 2012	P-2011.0132, Conversion of Tier II permit T2-2008.0109 to PTC P-2011.0132 (A, but will become S upon issuance of this permit)
October 8, 2008	T2-2008.0109, Permit to include existing requirements for the facility's Kipper boiler, and to also satisfy PTC requirements for new or modified sources that potentially required a PTC, but for which a PTC was not obtained prior to construction, Permit status (S)
June 10, 2008	T1-2008.0053, Tier I Operating Permit Modification – Incorporate Tier II Operating Permit No. T2-030515, Permit status (S)
June 10, 2008	T2-030515, Facility-wide Tier Operating Permit and Permit to Construct, Permit status (S)
April 16, 2008	T1-2010.0110, Tier I Operating Permit Renewal, Permit status (S)
December 11, 2002	Initial Tier I Operating Permit No. 065-00008 issued, Permit status (S)
May 8, 1984	PTC Letter was amended to clarify coal/wood input limits, Permit status (S)
April 30, 1981	PTC Letter was amended to revise test dates, Permit status (S)
July 30, 1980	PTC Letter (no number assigned) for the Kipper & Sons boiler issued, Permit status (S)

Application Scope

This PTC is for a modification at an existing Tier I facility.

The applicant has proposed to replace an existing production line consisting of two fresh potato dryers at the facility with a new fresh potato dehydration production line that has five dryers. The production line associated with Stacks 311, 312, and 410/411 at the Rexburg Facility has been replaced with a new production line that has five exhaust stacks. The removed production line included two steam-heated belt dryers used to dehydrate vegetable pieces. The new production line will prepare dried vegetable product from a combination of fresh vegetables and previously dried vegetables. The new production line equipment has five stacks that have been designated as M33, M44, M56, M62 (all natural gas-fired), and M86 (steam heated).

The applicant also requested minor revisions for clarity in the language for determining heat input to the Kipper boiler from biomass and coal fuel sources. The Kipper and Sons boiler is subject to the area source Boiler MACT provisions of 40 CFR 63, Subpart JJJJJ, which are incorporated into existing facility Tier I Permit No. T1-2012.0066. The Subpart JJJJJ rules are not included in the existing PTC No. P-2011.0132 because Subpart JJJJJ was not an applicable rule at the time when the PTC was issued. The applicant has requested that the permit incorporate language from Subpart JJJJJ pertaining to reduced frequency of boiler tune-up for boilers that have oxygen trim systems. This language was inadvertently omitted from the Subpart JJJJJ provisions in the Tier I Permit.

The applicant also requested during the draft permit review to remove the GHG emissions limit, calculation, and reporting requirement since an annual limit of 99,000 T-GHG/yr is no longer desired by the facility.

No physical changes or changes in method of operation are proposed for any other emissions units at the facility.

Application Chronology

December 3, 2014	DEQ received an application and an application fee.
January 8, 2015	DEQ determined that the application was incomplete.
February 11, 2015	DEQ received supplemental information from the applicant.
March 16, 2015	DEQ determined that the application was incomplete.
May 5, 2015	DEQ received supplemental information from the applicant.
June 3, 2015	DEQ determined that the application was complete.
July 22, 2015	DEQ made available the draft permit and statement of basis for peer and regional office review.
July 27, 2015	DEQ made available the draft permit and statement of basis for applicant review.
Month Day – Month Day, Year	DEQ provided a public comment period and EPA review on the proposed action.
Month Day, Year	DEQ received the permit processing fee.
Month Day, Year	DEQ issued the final permit and statement of basis.

TECHNICAL ANALYSIS

Emissions Units and Control Equipment

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Boilers			
Kipper & Sons Boiler	Manufacturer: Kipper & Sons Model: N/A S/N: 1300 Heat input rating: 90.0 MMBtu/hr Maximum steam production rate: 65,000 lb/hr Fuels: Coal (39% by weight) and wood Date installed: 1981	Multiclone, Wet Scrubber	
Boiler 1	Manufacturer: Erie City Model: Not given on Boiler Name Plate S/N: 96047 Heat input rating: 52 MMBtu/hr (Not given on Boiler Name Plate) Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: Prior to 1965	None	
Boiler 2	Manufacturer: Murray Model: MCF3-43 S/N: 10509 Heat input rating: 49.9 MMBtu/hr Maximum steam production rate: 40,000 lb/hr Fuels: Natural gas only Date installed: 2010	None	
Process A			
7020	Cooler/Dryer 7020 (Cooler vent)	None	
7101	Cooler/Dryer 7101 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7102	Cooler/Dryer 7102 (Dryer, 6.5 MMBtu/hr, natural gas-fired)	None	
7019	Cooler/Dryer 7019 (Dryer, 6.6 MMBtu/hr, steam and natural gas)	None	
7001	Cooler/Dryer 7001 (Dryer, steam-heated)	None	
7027	Cooler/Dryer 7027 (Cooler)	None	
7006	Material Recovery Unit 7006	None	

Table 1 EMISSIONS UNIT AND CONTROL EQUIPMENT INFORMATION (continued)

Source ID No.	Sources	Control Equipment	Emission Point ID No.
Process B			
5034	Material Recovery Unit 5034	None	
5037	Cooler/Dryer 5037 (Cooler/dryer vent, dryer is steam heated)	None	
4000	Cooler/Dryer 4000 (Dryer, steam heated)	None	
228	Cooler/Dryer 228 (Dryer, natural gas-fired, 16.1 MMBtu/hr)	None	
234	Cooler/Dryer 234 (Second exhaust from dryer 228)	None	
638	Cooler/Dryer 638 (Dryer vent, steam-heated)	None	
613/614	Cooler/Dryer 613/614 (Dryer vent, steam heated)	None	
615/616	Cooler/Dryer 615/616 (Dryer vent, steam heated)	None	
707	Material Recovery Unit 707 (fabric filter)	None	
725	Material Recovery Unit 725 (fabric filter)	None	
8	Material Recovery Unit 8 (fabric filter)	None	
5001	Material Recovery Unit 5001	None	
5000	Material Recovery Unit 5000 (fabric filter)	None	
432	Material Recovery Unit 432 (fabric filter)	None	
322	Material Recovery Unit 322	None	
572	Material Recovery Unit 572 (vent from material recovery cyclone in animal feed load-out system)	None	
33	Vegetable Dryer M33 (Dryer, natural gas-fired, 2.7 MMBtu/hr)	None	
44	Vegetable Dryer M44 (Dryer, natural gas-fired, 2.75 MMBtu/hr)	None	
56	Vegetable Dryer M56 (Dryer, natural gas-fired, 1.6 MMBtu/hr)	None	
62	Vegetable Dryer M62 (Dryer, natural gas-fired, 1.6 MMBtu/hr)	None	
86	Vegetable Dryer M86 (Dryer, steam heated)	None	
	Plant Space Heaters	None	

Emissions Inventories

Potential to Emit

IDAPA 58.01.01 defines Potential to Emit as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is state or federally enforceable. Secondary emissions do not count in determining the potential to emit of a facility or stationary source.

Using this definition of Potential to Emit an emission inventory was developed for the [M33, M44, M56, M62](#) (all natural gas-fired), and [M86](#) (steam heated) dried vegetable production lines at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Section 1.4 (7/98), Maxon Cyclomax (the burner manufacturer), source testing performed at the facility, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Uncontrolled Potential to Emit

Using the definition of Potential to Emit, uncontrolled Potential to Emit is then defined as the maximum capacity of a facility or stationary source to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall **not** be treated as part of its design **since** the limitation or the effect it would have on emissions **is not** state or federally enforceable.

The uncontrolled Potential to Emit is used to determine if a facility is a “Synthetic Minor” source of emissions. Synthetic Minor sources are facilities that have an uncontrolled Potential to Emit for regulated air pollutants or HAPs above the applicable Major Source threshold without permit limits. As the facility classification was previously determined for permitting project, T2-2008.0109 dated October 8, 2008 (based upon T2-030515), the uncontrolled PTE will not be presented for this project.

Pre-Project Potential to Emit

Pre-project Potential to Emit is used to establish the change in emissions at a facility as a result of this project.

This is an existing facility. Therefore, post project emissions from the most recently permitted project can be used for pre-project emissions for this project. Therefore, the post project emissions calculated for permitting project, P-2011.0132, dated June 1, 2012, will be presented as the pre-project PTE.

Table 2 PRE-PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO ^c		VOC		CO ₂ e ^d
	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	T/yr ^b
Point Sources											
Kipper & Sons Boiler	16.3	71.20	48.53	214.00	25.27	110.70	51.34	224.88	2.71	10.97	76,869
Boiler 1	0.39	1.70	0.12	0.54	5.10	22.33	4.28	18.76	0.28	1.23	27,331
Boiler 2	0.37	1.63	0.12	0.51	4.89	21.43	4.11	18.00	0.27	1.18	26,227
Cooler/Dryer 7020	0.41	1.82	0	0	0	0	0	0	0	0	0
Cooler/Dryer 7101	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7102	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7019	3.39	14.83	0.22	0.96	0.33	1.45	1.72	7.52	0.04	0.16	3,469
Cooler/Dryer 7001	0.23	1.03	0.03	0.11	0	0	0	0	0	0	0
Cooler/Dryer 7027	0.04	0.18	0	0	0	0	0	0	0	0	0
Material Recovery Unit 7006	0.12	0.54	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5034	0.02	0.07	0	0	0	0	0	0	0	0	0
Cooler/Dryer 5037	1.29	5.66	1.87	8.19	0	0	0	0	0	0	0
Cooler/Dryer 4000	1.72	7.53	0.26	1.14	0	0	0	0	0	0	0
Cooler/Dryer 228	1.10	4.80	0.19	0.84	0.48	2.12	2.51	11.00	0.05	0.23	5,077
Cooler/Dryer 234	0.31	1.37	0.06	0.28	0.32	1.41	1.67	7.33	0.03	0.15	3,385
Cooler/Dryer 410/411	0.29	1.28	0.05	0.20	0	0	0	0	0	0	0
Cooler/Dryer 311	0.29	1.28	0.05	0.20	0	0	0	0	0	0	0
Cooler/Dryer 312	0.59	2.57	0.09	0.39	0	0	0	0	0	0	0
Cooler/Dryer 638	1.09	4.80	0.17	0.74	0	0	0	0	0	0	0
Cooler/Dryer 613/614	0.85	3.74	0.13	0.56	0	0	0	0	0	0	0
Cooler/Dryer 615/616	0.24	1.05	0.04	0.16	0	0	0	0	0	0	0
Material Recovery Unit 707	0.00	0.01	0	0	0	0	0	0	0	0	0
Material Recovery Unit 725	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 8	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5001	0.24	1.07	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5000	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 432	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 322	0.24	0.00	0	0	0	0	0	0	0	0	0
Material Recovery Unit 572	1.14	0.25	0	0	0	0	0	0	0	0	0
Heaters	0.23	0.50	0.07	0.16	1.54	3.37	8.01	17.54	0.17	0.36	16,188
Pre-Project Totals	35.41	148.69	52.24	230.00	38.59	165.65	77.02	249.00	3.63	14.58	99,000

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.
- c) CO emissions are required to be less than 249.00 T/yr.
- d) Greenhouse gas emissions are required to be less than 99,000 Tyr.

Note: The highlighted emissions units in the table above will be removed as a result of this project.

Post Project Potential to Emit

Post project Potential to Emit is used to establish the change in emissions at a facility and to determine the facility's classification as a result of this project. Post project Potential to Emit includes all permit limits resulting from this project.

An emission inventory was developed for the M33, M44, M56, M62 (all natural gas-fired), and M86 (steam heated) dried vegetable production lines at the facility (see Appendix A) associated with this proposed project. Emissions estimates of criteria pollutant, HAP PTE were based on emission factors from AP-42, Section 1.4 (7/98), Maxon Cyclomax (the burner manufacturer), source testing performed at the facility, operation of 8,760 hours per year, and process information specific to the facility for this proposed project.

Table 3 POST PROJECT POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Emissions Unit	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO ^c		VOC		CO ₂ e ^d
	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	lb/hr ^a	T/yr ^b	T/yr ^b
Point Sources											
Kipper & Sons Boiler	16.3	71.20	48.53	214.00	25.27	110.70	51.34	224.88	2.71	10.97	76,869
Boiler 1	0.39	1.70	0.12	0.54	5.10	22.33	4.28	18.76	0.28	1.23	27,331
Boiler 2	0.37	1.63	0.12	0.51	4.89	21.43	4.11	18.00	0.27	1.18	26,227
Cooler/Dryer 7020	0.41	1.82	0	0	0	0	0	0	0	0	0
Cooler/Dryer 7101	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7102	2.16	9.47	0.12	0.51	0.33	1.42	1.69	7.40	0.04	0.15	3,416
Cooler/Dryer 7019	3.39	14.83	0.22	0.96	0.33	1.45	1.72	7.52	0.04	0.16	3,469
Cooler/Dryer 7001	0.23	1.03	0.03	0.11	0	0	0	0	0	0	0
Cooler/Dryer 7027	0.04	0.18	0	0	0	0	0	0	0	0	0
Material Recovery Unit 7006	0.12	0.54	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5034	0.02	0.07	0	0	0	0	0	0	0	0	0
Cooler/Dryer 5037	1.29	5.66	1.87	8.19	0	0	0	0	0	0	0
Cooler/Dryer 4000	1.72	7.53	0.26	1.14	0	0	0	0	0	0	0
Cooler/Dryer 228	1.10	4.80	0.19	0.84	0.48	2.12	2.51	11.00	0.05	0.23	5,077
Cooler/Dryer 234	0.31	1.37	0.06	0.28	0.32	1.41	1.67	7.33	0.03	0.15	3,385
Cooler/Dryer 638	1.09	4.80	0.17	0.74	0	0	0	0	0	0	0
Cooler/Dryer 613/614	0.85	3.74	0.13	0.56	0	0	0	0	0	0	0
Cooler/Dryer 615/616	0.24	1.05	0.04	0.16	0	0	0	0	0	0	0
Material Recovery Unit 707	0.00	0.01	0	0	0	0	0	0	0	0	0
Material Recovery Unit 725	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 8	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5001	0.24	1.07	0	0	0	0	0	0	0	0	0
Material Recovery Unit 5000	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 432	0.05	0.21	0	0	0	0	0	0	0	0	0
Material Recovery Unit 322	0.24	0.00	0	0	0	0	0	0	0	0	0
Material Recovery Unit 572	1.14	0.25	0	0	0	0	0	0	0	0	0
Vegetable Dryer M33	0.44	1.34	0.06	0.20	0.08	0.34	0.14	0.63	0.15	0.64	
Vegetable Dryer M44	0.27	0.83	0.04	0.12	0.08	0.35	0.15	0.64	0.15	0.65	
Vegetable Dryer M56	0.12	0.36	0.02	0.06	0.05	0.20	0.09	0.37	0.09	0.38	
Vegetable Dryer M62	0.02	0.07	0.01	0.04	0.05	0.20	0.09	0.37	0.09	0.38	
Vegetable Dryer M86	0.01	0.02	0.01	0.03	0	0	0	0	0	0	0
Heaters	0.23	0.50	0.07	0.16	1.54	3.37	8.01	17.54	0.17	0.36	16,188
Post Project Totals	35.10	146.18	52.19	229.66	38.85	166.74	77.49	249.00	4.11	16.63	99,000

- a) Controlled average emission rate in pounds per hour is a daily average, based on the proposed daily operating schedule and daily limits.
- b) Controlled average emission rate in tons per year is an annual average, based on the proposed annual operating schedule and annual limits.
- c) CO emissions are required to be less than 249.00 T/yr.
- d) Greenhouse gas emissions are required to be less than 99,000 T/yr.

Note: The highlighted emissions units in the table above will be installed as a result of this project.

Change in Potential to Emit

The change in facility-wide potential to emit is used to determine if a public comment period may be required and to determine the processing fee per IDAPA 58.01.01.225. The following table presents the facility-wide change in the potential to emit for criteria pollutants.

Table 4 CHANGES IN POTENTIAL TO EMIT FOR REGULATED AIR POLLUTANTS

Source	PM ₁₀ /PM _{2.5}		SO ₂		NO _x		CO		VOC		CO ₂ e
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr
Pre-Project Potential to Emit	35.41	148.69	52.24	230.00	38.59	165.65	77.02	249.00	3.63	14.58	99,000
Post Project Potential to Emit	35.10	146.18	52.19	229.66	38.85	166.74	77.49	249.00	4.11	16.63	99,000
Changes in Potential to Emit	-0.31	-2.51	-0.05	-0.34	0.26	1.09	0.47	0.00	0.48	2.05	0.00

Non-Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of **non-carcinogenic** toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, non-carcinogenic TAP emissions for the emissions units involved in the project are presented in the following table:

Table 5 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR NON-CARCINOGENIC TOXIC AIR POLLUTANTS

Non-Carcinogenic Toxic Air Pollutants	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Chromium	0.00E-03	1.19E-05	0.000012	0.033	No
Cobalt metal dust and fume	0.00E-03	7.13E-07	0.00000071	0.0033	No
o-Dichlorobenzene	0.00E-03	1.02E-05	0.000010	20	No
Hexane	0.00E-03	1.53E-02	0.015	12	No
Manganese dust & compounds	0.00E-03	3.23E-06	0.0000032	0.333	No
Naphthalene	0.00E-03	5.17E-06	0.0000052	3.33	No
Pentane	0.00E-03	2.20E-02	0.022	118	No
Selenium	0.00E-03	2.03E-07	0.00000020	0.013	No
Toluene	0.00E-03	2.88E-05	0.000029	25	No

None of the PTEs for non-carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is not required for any non-carcinogenic TAP because none of the 24-hour average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Carcinogenic TAP Emissions

A summary of the estimated PTE for emissions increase of **carcinogenic** toxic air pollutants (TAP) is provided in the following table.

Pre- and post-project, as well as the change in, carcinogenic TAP emissions for the new emissions units involved in the project are presented in the following table:

Table 6 PRE- AND POST PROJECT POTENTIAL TO EMIT FOR CARCINOGENIC TOXIC AIR POLLUTANTS

Carcinogenic Toxic Air Pollutants	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Arsenic compounds	0.00E-03	1.70E-06	0.0000017	1.5E-06	Yes
Beryllium & compounds	0.00E-03	1.02E-07	0.00000010	2.8E-05	No
Cadmium and compounds	0.00E-03	9.34E-06	0.0000093	3.7E-06	Yes
Chromium IV	0.00E-03	5.93E-07	0.00000059	5.6E-07	Yes
Formaldehyde	0.00E-03	6.36E-04	0.00064	5.1E-04	Yes
3-Methylchloroanthene	0.00E-03	1.53E-08	0.000000015	2.5E-06	No
Nickel	0.00E-03	1.78E-05	0.000018	2.7E-05	No
POM	0.00E-03	9.67E-08	0.00000010	2.00E-06	No

a) Polycyclic Organic Matter (POM) is considered as one TAP comprised of: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-cd)pyrene, benzo(a)pyrene. The total is compared to benzo(a)pyrene.

Some of the PTEs for carcinogenic TAP were exceeded as a result of this project. Therefore, modeling is required for Arsenic compounds, cadmium and compounds, chromium IV, and formaldehyde because the annual average carcinogenic screening ELs identified in IDAPA 58.01.01.586 were exceeded.

Post Project HAP Emissions

The following table presents the post project potential to emit for HAP pollutants from **the new emissions units involved in the project** as submitted by the Applicant and verified by DEQ staff. See **Appendix A** for a detailed presentation of the calculations of these emissions for each emissions unit.

Table 7 HAZARDOUS AIR POLLUTANTS EMISSIONS POTENTIAL TO EMIT SUMMARY

Hazardous Air Pollutants	PTE (lb/hr)	PTE (T/yr)
EPA total listed HAPs	1.60E-02	0.070
Totals	0.02	0.070

Ambient Air Quality Impact Analyses

As presented in the Modeling Memo in Appendix B, the estimated emission rates of **PM₁₀**, **PM_{2.5}**, and **NO_x** exceeded published DEQ modeling thresholds established in IDAPA 58.01.01.585-586 and in the State of Idaho Air Quality Modeling Guideline¹. Refer to the Emissions Inventories section for additional information concerning the emission inventories. In addition, TAP emissions from this project were above applicable screening emission levels (ELs) for **arsenic compounds**, **cadmium and compounds**, **chromium VI**, and **formaldehyde**. Refer to the Emissions Inventories section for additional information concerning the emission inventories.

¹ Criteria pollutant thresholds in Table 2, State of Idaho Guideline for Performing Air Quality Impact Analyses, Doc ID AQ-011, September 2013.

The applicant has demonstrated pre-construction compliance to DEQ's satisfaction that emissions from this facility will not cause or significantly contribute to a violation of any ambient air quality standard. The applicant has also demonstrated pre-construction compliance to DEQ's satisfaction that the emissions increase due to this permitting action will not exceed any acceptable ambient concentration (AAC) or acceptable ambient concentration for carcinogens (AACC) for toxic air pollutants (TAP). A summary of the Ambient Air Impact Analysis for TAP is provided in Appendix A.

An ambient air quality impact analyses document has been crafted by DEQ based on a review of the modeling analysis submitted in the application. That document is part of the final permit package for this permitting action (see Appendix B).

REGULATORY ANALYSIS

Attainment Designation (40 CFR 81.313)

The facility is located in [Madison](#) County, which is designated as attainment or unclassifiable for PM_{2.5}, PM₁₀, SO₂, NO₂, CO, and Ozone. Refer to 40 CFR 81.313 for additional information.

Facility Classification

The AIRS/AFS facility classification codes are as follows:

For THAPs (Total Hazardous Air Pollutants) Only:

- A = Use when any one HAP has actual or potential emissions ≥ 10 T/yr or if the aggregate of all HAPS (Total HAPs) has actual or potential emissions ≥ 25 T/yr.
- SM80 = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the permit sets limits ≥ 8 T/yr of a single HAP or ≥ 20 T/yr of THAP.
- SM = Use if a synthetic minor (potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable limitations) and the potential HAP emissions are limited to < 8 T/yr of a single HAP and/or < 20 T/yr of THAP.
- B = Use when the potential to emit without permit restrictions is below the 10 and 25 T/yr major source threshold
- UNK = Class is unknown

For All Other Pollutants:

- A = Actual or potential emissions of a pollutant are ≥ 100 T/yr.
- SM80 = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are ≥ 80 T/yr.
- SM = Use if a synthetic minor for the applicable pollutant (potential emissions fall below 100 T/yr if and only if the source complies with federally enforceable limitations) and potential emissions of the pollutant are < 80 T/yr.
- B = Actual and potential emissions are < 100 T/yr without permit restrictions.
- UNK = Class is unknown.

Table 8 REGULATED AIR POLLUTANT FACILITY CLASSIFICATION

Pollutant	Uncontrolled PTE (T/yr)	Permitted PTE (T/yr)	Major Source Thresholds (T/yr)	AIRS/AFS Classification
PM ₁₀ /PM _{2.5}	148.69	146.18	100	A
SO ₂	230.00	229.66	100	A
NO _x	165.65	166.74	100	A
CO	319.83	249.00	100	A
VOC	14.58	16.63	100	B
HAP (single)	0.07	0.07	10	B
HAP (Total)	0.07	0.07	25	B

Permit to Construct (IDAPA 58.01.01.201)

IDAPA 58.01.01.201

Permit to Construct Required

The permittee has requested that a PTC be issued to the facility for the [proposed new emissions units involved in the project](#). Therefore, a permit to construct is required to be issued in accordance with IDAPA 58.01.01.220. This permitting action was processed in accordance with the procedures of IDAPA 58.01.01.200-228.

Tier II Operating Permit (IDAPA 58.01.01.401)

IDAPA 58.01.01.401

Tier II Operating Permit

The application was submitted for a permit to construct (refer to the Permit to Construct section), and an optional Tier II operating permit has not been requested. Therefore, the procedures of IDAPA 58.01.01.400–410 were not applicable to this permitting action.

Title V Classification (IDAPA 58.01.01.300, 40 CFR Part 70)

IDAPA 58.01.01.301

Requirement to Obtain Tier I Operating Permit

Post project facility-wide emissions from this facility have a potential to emit greater than 100 tons per year for ~~(list pollutants, i.e., PM₁₀, SO₂, NO_x, and CO, VOC, and HAP)~~ or 10 tons per year for any one HAP or 25 tons per year for all HAP combined ~~(list HAP or HAP)~~ as demonstrated previously in the Emissions Inventories Section of this analysis. Therefore, this facility is classified as a major facility, as defined in IDAPA 58.01.01.008.10. ~~{If a new Major Source facility, include the following.} Therefore, in accordance with IDAPA 58.01.01.313.01.b, the permittee must submit a complete application to DEQ for an initial Tier I operating permit within 12 months of becoming a Tier I source or commencing operation. This requirement is assured by Permit Condition X.~~

PSD Classification (40 CFR 52.21)

40 CFR 52.21

Prevention of Significant Deterioration of Air Quality

The facility is not a major stationary source as defined in 40 CFR 52.21(b)(1), nor is it undergoing any physical change at a stationary source not otherwise qualifying under paragraph 40 CFR 52.21(b)(1) as a major stationary source, that would constitute a major stationary source by itself as defined in 40 CFR 52. Therefore in accordance with 40 CFR 52.21(a)(2), PSD requirements are not applicable to this permitting action. The facility is not a designated facility as defined in 40 CFR 52.21(b)(1)(i)(a), and does not have facility-wide emissions of any criteria pollutant that exceed 250 T/yr.

NSPS Applicability (40 CFR 60)

Because the facility has [three boilers rated at greater than 10 MMBtu/hr \(but less than 100 MMBtu/hr\)](#) the following NSPS requirement apply to this facility:

- 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

The three boilers subject to 40 CFR 60, Subpart Dc, are not being modified as a result of this project. Therefore, refer to the Statement of Basis for permit P-2011.0132, project 60943, dated June 1, 2012, for the compliance discussion of Subpart Dc.

NESHAP Applicability (40 CFR 61)

The project is not subject to any NESHAP requirements in 40 CFR 61.

MACT Applicability (40 CFR 63)

The project is not subject to any MACT standards in 40 CFR Part 63.

Permit Conditions Review

[This section describes only those permit conditions that have been added, revised, modified or deleted as a result of this permitting action.](#)

Permit Condition [1.1](#) describes the modifications to the existing processes at the facility process being permitted as a result of this project.

Permit Condition [1.3](#) explains which previous permit for the facility is being replaced as a result of this project.

Table [1.1](#) was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

KIPPER BOILER

Permit Condition [3.12](#), pervious permit condition [3.10](#), was [corrected as requested by the Applicant to correct a technical oversight during permit issuance, in which provisions applicable to boilers with oxygen trim systems was not included in the permit. Since the applicable provisions of 40 CFR 60, Subpart JJJJJ were not included in the current PTC, these provisions are being added to the existing permit, including the applicable provisions for boilers with an oxygen trim system.](#)

Permit Condition [3.17](#), pervious permit condition [3.15](#), was [modified as requested by the Applicant to clarify the steam and coal monitoring requirements.](#)

Permit Condition [3.18](#), pervious permit condition [3.16](#), was [modified as requested by the Applicant to clarify the steam and coal monitoring requirements. In lieu of a fixed factor for heat content of coal as requested by the applicant, DEQ is proposing to use fuel supplier data on heat content of coal to calculate heat supplied from coal and from biomass.](#)

PROCESS B (DRYING PROCESS AND MATERIAL TRANSFER SYSTEMS)

Table [6.1](#) was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

Permit Condition [6.3](#), pervious permit condition [6.1](#), was [modified to remove and include the PM₁₀ emissions limits of the exhaust stacks being removed and installed as a result of this project.](#)

SUMMARY OF EMISSIONS RATE LIMITS

Table [9.1](#) was updated to reflect the existing equipment being removed and the new equipment being installed as a result of this project.

PUBLIC REVIEW

Public Comment Period

A public comment period was made available to the public in accordance with IDAPA 58.01.01.209.05.c. During this time, comments ~~were/were not~~ submitted in response to DEQ's proposed action. Refer to the chronology for public comment period dates.

{comments received} A response to public comments document has been crafted by DEQ based on comments submitted during the public comment period. That document is part of the final permit package for this permitting action.

APPENDIX A – EMISSIONS INVENTORIES

APPENDIX B – AMBIENT AIR QUALITY IMPACT ANALYSES

APPENDIX C – FACILITY DRAFT COMMENTS

The following comments were received from the facility on August 5, 2015:

Facility Comment: Permit Condition 3.17, [Steam and Coal Monitoring](#) – During a recent inspection there was confusion over the need to calculate the heat input when we were not co-firing with coal. In order to preclude this confusion in the future we propose to indent the coal heat input calculation requirements or denote that coal heat input calculations are required only when coal is co-fired with wood.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Permit Conditions 8.1, 8.4, 8.5, 8.6, and the second paragraph of 8.7, [Carbon Monoxide Emissions Limit](#) – In our original application we over looked this item. Although we asked to have this included in the past we have now changed our minds and would like it removed for there is no longer a basis for a GHG limit at this facility.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Permit Table 9.1, [Summary of Emissions Rate Limits](#) – References to Stacks 311, 312, and 410/411. These stacks are no longer in operation and have been removed in the previous sections of this permit.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Statement of Basis, [Facility Information, Description, Dehydrated potato granules](#) – Correct the plant reference from Shelley to Rexburg.

DEQ Response: The requested change will be made to the permit.

Facility Comment: Statement of Basis, [Facility Information, Application Scope](#) – The current Application Scope does not have language for clarification of heat input calculations and reduced tuning due to utilizing an O₂ trim system and the request to remove the 99,000 T-GHG/yr limit.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, [Emissions Inventories, Potential to Emit](#) – Based on the request to remove the GHG limit in the permit there no longer be a need to reference this constituent..

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, [Ambient Air Quality Impact Analyses](#) – Clarify which pollutants were modeled.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, [Permit Conditions Review, Kipper Boiler](#) – Specify the clarification of Permit Condition 3.12 as discussed previously.

DEQ Response: The requested change will be made to the Statement of Basis.

Facility Comment: Statement of Basis, [Permit Conditions Review, Kipper Boiler](#) – Specify the clarification of Permit Condition 3.17 as discussed previously.

DEQ Response: The requested change will be made to the Statement of Basis.

APPENDIX D – PROCESSING FEE